Staff believes that the manner in which BST performed its internal testing is insufficient to demonstrate that its systems and processes are capable of responding to an order placed by an ALEC in a manner that is at parity with BST's own abilities. Staff believes that end-to-end testing to demonstrate that ordering and provisioning of services must be done as if an ALEC was placing the order. BST performed end-to-end testing by using its own systems to demonstrate that it can provide service. However, not only do ALECs use different interfaces, but ALECs must also use different downstream databases to process orders. Therefore, BST has failed to demonstrate that ordering and provisioning functions placed through ALEC available systems do in fact, work at parity with BST's internal systems.

Ordering and Provisioning Summary

As discussed above, the intervenors cite many short comings with BellSouth's ordering interfaces. The problems raised by the intervenors demonstrate that BellSouth has not provided nondiscriminatory access to the ordering and provisioning functions. Based on the evidence in the record, staff has addressed the major problems presented by the parties.

LENS and EDI do not incorporate the same level of on-line edit capabilities as BST's internal interfaces. There is, therefore, a higher chance that orders will contain mistakes, which will be rejected by the downstream systems. The result of the limited edit capability, is that ALEC orders will take longer to actually be provisioned, then BST orders.

LENS and EDI do not provide an order summary screen as does RNS and DOE. This makes it very difficult and time consuming for an ALEC to verify a customer's order, while the customer is on-line. Staff believes that LENS and EDI must provide this capability.

Staff believes that the interfaces offered by BST must offer similar functionality. As stated above, pending orders placed via LENS or EDI cannot be accessed to make changes. Instead, a change order must be prepared. BST's internal interfaces provide the service representative the ability to access orders pending implementation.

In order for ALECs to develop their side of the interface, they must first receive technical specifications for BST's proposed interfaces. BST has not provided such specifications to requesting carriers.

As discussed above, there are three forms of manual intervention. Staff believes each of these types of manual intervention must be eliminated before the nondiscriminatory access standard can be met. Staff believes that in order to provide nondiscriminatory access to the ordering function, BellSouth must do the following: First, BellSouth must provide an interface that integrates the pre-ordering and ordering functions; second, BellSouth must provide ALECs with the same capability to generate electronic orders for the same services that BellSouth can electronically generate for itself; and third, BellSouth must provide the technical specifications necessary to permit ALECs to link their own OSS system to BellSouth's OSS. It is BellSouth's position that ALECs need to develop their own integration capabilities. However, BellSouth has not provided sufficient technical documentation for LENS that would enable ALECs to do so.

On the first and second points the FCC concluded that "in order to meet the nondiscriminatory standard of OSS, an incumbent LEC must provide to competing carriers access to OSS functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing that is equivalent to what it provides itself, its customers or other carriers." (EXH 1, FCC 97-298, ¶130) Regarding the third point, the FCC stated that a BOC is required to provide carriers with the technical specifications that will allow ALECs to modify or design their systems such that their OSS will be able to communicate with the BOC's legacy systems. (EXH 1, FCC 97-298, ¶137) The FCC further stated that BOCs "must provide competing carriers with all of the information necessary to format and process their electronic requests so that these requests flow through the interfaces, the transmission links, and into the legacy systems as quickly and efficiently as possible." (EXH 1, FCC 97-298, ¶137)

BST has not demonstrated that its systems can process the number of orders per day that it claims it can. The consulting firm hired by BST to perform an analysis of the Local Carrier Service Center (LCSC), stated in its report that BST has missed service implementation dates. In addition, BST has experienced problems providing firm order confirmations (FOCs) in a timely manner. This results in the ALEC not knowing when service was actually implemented, and has resulted in billing statements being sent to the end user by both BST and the ALEC. Although, BST claims that it is currently receiving approximately 200 orders per day, BST has not demonstrated that it can effectively handle this low volume of orders in an accurate and timely fashion. Therefore, staff does not believe that BST can currently meet service order demand requirements.

As stated above, staff will not provide a recommendation on matters related to currently combined UNEs. The discussion above related to the provisioning interval for an existing loop/port combination falls into this category and staff, therefore, provides no recommendation on the matter.

BST has not provided sufficient test documentation to prove that it is capable of providing those services not yet requested. Staff believes that the manner in which BST performed its internal testing is insufficient to demonstrate that its systems and processes are capable of responding to an order placed by an ALEC in a manner that is at parity with BST's own abilities.

Staff would note that correction of the deficiencies listed above would not necessarily mean that BST's interfaces meet the nondiscriminatory access requirement. Staff believes that of the problems raised by the intervenors, the most serious were discussed here. Staff believes that BST has the burden to prove that all of its interfaces meet the nondiscriminatory access requirements of the Act.

3. <u>MAINTENANCE and REPAIR</u>

<u>Problem 1</u>: TAFI is a proprietary system that does not provide ALECs with machine-to-machine functionality.

Witness Bradbury stated that TAFI is a human-to-machine interface that requires a new entrant to manually enter each trouble report order into the ALEC's own OSS, because TAFI does not allow electronic communication between BellSouth's OSS and a new entrant's OSS. Therefore, AT&T states that because new entrants must manually input the maintenance and repair data twice, instead of only once, the ALECs are denied the ability to operate in substantially the same time and manner as BellSouth. (TR 2876) However, BellSouth has the capability to submit maintenance and repair orders electronically for all types of service. (Bradbury TR 2879-80)

Witness Calhoun agreed that TAFI was not a machine-to-machine interface. (TR 1225) However, she contends that the TAFI interface is "intelligible to a human being" using this system. (TR 1226) In addition, witness Calhoun stated that TAFI is not an industry standard; however, she states that the functionality that TAFI provides is "far superior" to the level of functionality that the industry defines in terms of exchanging information about a trouble report. (TR 1224-1225) She also stated that TAFI can be used for any trouble identified with a telephone number, including residential and simple business services, and some UNEs, such as an unbundled port, interim number portability, PBX trunks and ESSX station lines. (TR 1229)

Problem 2: The TAFI interface lacks sufficient capacity to meet demand.

AT&T stated that TAFI does not have the necessary capacity to meet the demand of all ALECs. In support of this claim, AT&T stated that TAFI currently has the capacity to support 195 simultaneous users in BellSouth's region if its "hot spare" arrangement is activated. Witness Bradbury stated that this capacity is insufficient, because AT&T alone has several hundred repair attendants that would all need to be logged into TAFI at the same time, just as BellSouth's repair attendants. (TR 2877)

BellSouth stated that TAFI has sufficient capacity to meet demand. Witness Calhoun testified that TAFI currently supports 65 simultaneous users with a second processor being installed that will double the capacity. In addition, she stated that BellSouth has a "hot spare" arrangement in place that can be activated almost immediately. The "hot spare" arrangement protects against equipment failure in case one of the main processors fails, and it would increase the capacity by an additional 65 users for a total of 195 simultaneous users. Further, for every 65 users, the TAFI system can handle 1300 troubles per hour. Witness Calhoun also stated that additional processors can be added within 60 days to increase the capacity, if needed. (TR 1102-1103; EXH 10, p.8)

Maintenance and Repair Summary

Staff believes that BellSouth must provide ALECs with the technical specifications of TAFI, so that ALECs can integrate their OSS with BellSouth's OSS for maintenance and repair. This electronic communication capability does not currently exist, therefore, an ALEC must manually reenter each trouble report into its own OSS system. In addition, staff believes that BellSouth must provide ALECs with the ability to have all of the ALECs repair attendants logged into TAFI at the same time, just as BellSouth's repair attendants, in order for the TAFI interface to meet the nondiscriminatory standard. The FCC concluded that "in order to meet the nondiscriminatory standard of OSS, an incumbent LEC must provide to competing carriers access to OSS functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing that is equivalent to what it provides itself, its customers or other carriers." (EXH 1, FCC 97-298, ¶130)

4. BILLING

Although staff addressed billing problems related to UNEs above, billing capabilities are one of the functions of OSS and, therefore, apply here. However, staff will not repeat the discussion on the same problems again. To summarize, BST has not demonstrated that it can provide billing statements for usage sensitive UNEs.

OSS SUMMARY

A major area of concern with respect to the interfaces offered by BST, is the amount of manual intervention that is required on behalf of an ALEC service rep. The amount of manual intervention required when placing a non-complex order via the EDI interface is far in excess of how BST would place the same order. The primary problem is that BST does not provide a pre-ordering interface that is integrated with an ordering interface that provides these functions in essentially the same time and manner as BST's internal systems. In addition, the interface must provide the capability to interconnect the ALEC's own internal OSS to BST's OSS. BST has not provided the technical data to requesting carriers to permit the development of such interconnection. In the Ameritech Order, the FCC listed several components for the provision of access to OSS. These components include:

1. the interface, or gateway, which is used to inter-connect the ALEC's own internal OSS to an RBOC's OSS.

2. a processing link, either electronic or manual, between the interface and the RBOC's internal OSS (which includes all necessary back office systems and personnel).

3. all internal OSS or Legacy systems that an RBOC uses in providing UNEs to an ALEC.

According to the FCC, an RBOC must provide more than just an interface in order to comply with the nondiscriminatory access standard for OSS. BST has only partially provided part one, of the three components mentioned above. BST has provided interfaces, but the interfaces do not permit interconnection to the ALEC's OSS at this time.

The FCC states that in order for an RBOC to meet the nondiscriminatory access standard, no limits may be placed on the processing of information between the interface and the legacy systems, if such limits did not permit an ALEC to perform a function in substantially the same time and manner as the RBOC performs the function for itself.

Staff believes that BST is required to demonstrate to this Commission and to the FCC, that its interfaces provide nondiscriminatory access to OSS functions. Although AT&T witness Bradbury stated that there are five characteristics of a non-discriminatory interface, staff recommends that the Commission recognize four of the characteristics. Staff believes that each interface must exhibit the following four characteristics in order for it to be in compliance with the nondiscriminatory standards of the Act. They are:

1. Interface must be electronic

   The interface must require no more human or manual intervention than is necessarily involved for BST to perform a similar transaction itself.

2. Quality, Efficiency, and Effectiveness

   The interface must provide the capabilities necessary to perform functions with the same level of quality, efficiency, and effectiveness as BST provides to itself.

3. Adequate Documentation

   The interface must have adequate documentation to allow an ALEC to develop and deploy systems and processes, and to provide adequate training to its employees.

4. Sufficient Capacity

   The interface must be able to meet the ordering demand of all ALECs, with response times equal to that which BST provides itself.

The fifth requirement as discussed by witness Bradbury, is that an interface must comply with national standards. Although staff agrees that an interface should comply with national standards, there are no national standards for pre-ordering interfaces. Therefore, staff believes that requiring an interface to be in compliance with national standards should not be considered necessary to demonstrate nondiscriminatory access. Therefore, BST's proprietary interface, LENS, could have been sufficient to meet the integrated interface requirement, if it met all four of the requirements of a non-discriminatory interface. Staff believes that BST must offer a pre-ordering interface that is integrated with the industry-standard EDI interface, for two reasons. First, integration of pre-ordering and ordering function must be provided simply because BST has integrated its own internal pre-ordering and ordering functions; and second, because BST has declared that EDI is the ordering interface that it recommends carriers use.

In summary, staff believes that the interfaces and processes offered by BST do not permit an ALEC to perform an OSS function in substantially the same time and manner as BST performs the function for itself. In addition, the SGAT offers the same interfaces and OSS functions; therefore, the same problems identified above are applicable to what is offered via the SGAT. These deficiencies also render the SGAT non-compliant with the UNE portion of the checklist.

STAFF RECOMMENDATION

In summary, staff believes that BST has not met its duty to provide nondiscriminatory access to UNEs to requesting carriers. Staff agrees with the FCC that the RBOC must demonstrate that it is meeting the nondiscriminatory access standard for UNEs, including access to OSS functions, by offering an efficient carrier a meaningful opportunity to compete. (EXH 1, FCC 97-298, ¶141)

BST must demonstrate to this Commission that it is providing, to requesting carriers, access to UNEs per the requirements of the Act. As discussed above, staff believes that BST has not met this requirement.

The FCC concluded in the Ameritech order, that its requirement on RBOCs to demonstrate nondiscriminatory access to OSS functions is "achievable." The FCC stated: "We require, simply, that the BOC provide the same access to competing carriers that it provides to itself." (¶143)

Based on the evidence in this proceeding, staff recommends that the Commission find that BST has not met the requirements of Section 271 (c)(2)(B)(ii). BST has not fulfilled its duty to provide, to a requesting carrier, nondiscriminatory access to unbundled network elements, including access to its operations support systems functions as required by the Act, the FCC's rules, and this Commission's arbitration order.

ISSUE 3a Has BellSouth developed performance standards and measurements? If so, are they being met? **(Audu)**

RECOMMENDATION: Yes. BellSouth has developed performance standards and measurements. These performance standards and measurements are in the form of performance target intervals. However, the performance target intervals that BellSouth has established are not adequate to monitor post-entry nondiscriminatory performance for UNEs and OSS functions. **(AUDU)**

POSITION OF THE PARTIES

ACSI: No. BellSouth has neither provided nondiscriminatory access nor has the company developed performance standards or measurements.

AT&T: No. The performance standards and measurements proposed by BellSouth are insufficient to demonstrate parity or nondiscriminatory access.

BST: Yes. BellSouth has reached agreement for performance measurements with AT&T and with other ALECs. These measures ensure that BellSouth will provide the same level of performance to ALEC customers that BellSouth provides to its own retail customers. BellSouth has included in its Statement the same performance measures it has negotiated with AT&T in the parties' nine-state agreement. Initial report to date indicate that the negotiated performance measurements are being met.

FCCA: No. BellSouth has not developed sufficient performance standards and has not provided measurements of its own performance. Absent sufficient standards and information concerning BellSouth's own performance, neither new entrants or this Commission can begin to assess whether BellSouth is providing parity to its competitors, as required by the Act and FCC rules. For this reasons alone, the Commission must inform the FCC that BellSouth has not complied with § 271.

FCTA: No. BellSouth has failed to develop adequate performance standards and measurements. AT&T standards are not finalized and not adequate for facilities-based competitors.

ICI: No, BellSouth has not developed performance standards and measures specifically to Intermedia. Such performance standards necessarily should focus on both traditional voice services and advanced data services provided by BellSouth. Moreover, BellSouth has not provided the necessary empirical data for the Commission to determine whether BellSouth is actually providing access to its network that is nondiscriminatory.

MCI: No. BellSouth has not developed sufficient performance measurements to determine whether it is providing checklist items in a nondiscriminatory manner. While BellSouth has agreed to some performance measurements in its various interconnection agreements, it has not established the standards which would demonstrate parity between itself and ALECs. The limited performance data to date shows that BellSouth is not providing access to OSS functions, UNEs, or resold services in a nondiscriminatory manner.

MFS/WorldCom: No. BellSouth has not developed or produced any statistically valid performance measurements that demonstrate that the proposed operational support systems ("OSS") meet the requirements of the Act.

Sprint: No. Sprint/SMNI have not been provided any data with respect to BellSouth's performance standards and measurements.

TCG: No. BellSouth has not developed performance standards and measurements that would allow it to demonstrate its compliance with any of the Section 271 Competitive Checklist requirements.

STAFF ANALYSIS:

INTERPRETATION OF THE ACT'S REQUIREMENTS

SECTION 271 REQUIREMENTS

Section 271(c)(2)(B)(ii) requires that access or interconnection provided or generally offered by a Bell operating company to other telecommunications carriers shall be nondiscriminatory in accordance to §251(c)(3). Section 271(c)(2)(B)(xiv) requires that telecommunications services available for resale shall satisfy the requirements of §251(c)(4). In addition, §251(c)(3) requires that the BOC shall provide the requesting carriers with nondiscriminatory access to the requested network elements, and §251(c)(4) requires that the ILECs shall not impose unreasonable or discriminatory conditions or limitations on the resale of such telecommunications services.

FCC'S INTERPRETATION OF SECTION 271 REQUIREMENTS

FCC ORDERS

The FCC recognized that not having access to the operations support systems (OSS) employed by the ILECs, and the information such systems maintain and update in order to administer telecommunications networks and services, could represent a significant potential barrier to entry. The FCC concluded that these systems determine the speed and efficiency with which incumbent LECs can market, order, provision, and maintain telecommunications services and facilities. (EXH 1, FCC 96-325, ¶516) The FCC further states that nondiscriminatory access to OSS functions can be viewed as the information contained in and processed by these operations systems. Such information can be classified as that which is sufficient for billing and collection or used in the transmission, routing, or other provision of telecommunications service. (EXH 1, FCC 96-325, ¶517) Hence, the FCC concluded that OSS functions are subject to the nondiscriminatory access requirements imposed by section 251(c)(3), and section 251(c)(4). The FCC determined that the information in these systems is critical to the ALEC's ability to compete with the ILECs using unbundled network elements or resold services. In addition, the FCC notes that absent any service interval information, maintenance histories, etc., ALECs would operate at a significant disadvantage with respect to the incumbent. The FCC concluded that if competing carriers are unable to perform the functions of pre-ordering, ordering, provisioning, maintenance and repair, and billing for network elements and resale services in substantially the same time and manner that an ILEC can for itself, the ALEC will be severely disadvantaged, if not precluded altogether, from fairly competing. (EXH 1, FCC 96-325, ¶518)

The FCC states that nondiscriminatory access to UNEs in accordance with section 251(c)(3) could mean the quality of an UNE that an ILEC provides as well as the access provided by that element. In addition, the access provisioned and the associated terms and conditions governing such access must be equal between all carriers requesting access to that element and where technically feasible. The access and UNEs provided by an ILEC must be at least equal in quality to that which the ILEC provides to itself. (EXH 1, FCC 96-325, ¶312, 315) The FCC also found that services made available for resale must be at least equal in quality to that provided by the ILEC to itself or to any affiliate or end users. This requirement includes differences imperceptible to end users because such differences may still provide ILECs with advantages in the marketplace. The FCC also required that ILEC services provisioned for resale shall be provided with the same timeliness as they are provided to the

ILEC's affiliates or the ILEC's end users. (EXH 1, FCC 96-325, ¶970)

AMERITECH ORDER

The FCC determined that Ameritech has the burden of demonstrating that it has met all of the requirements of section 271 including nondiscriminatory access to UNEs and resale services. The FCC determined that the access Ameritech currently provides for resale services is not equivalent to the access that it provides to itself on its retail local exchange operations. The FCC expressed doubts regarding Ameritech's ability to provide nondiscriminatory access to its systems, and concluded that evidence suggests that the quality of access will decline as commercial usage increases. (EXH 1, FCC 97-298, ¶158) The FCC noted, absent equivalent access to a BOC's OSS, many checklist items that require the use of OSS functions, such as resale of services and UNEs, would not practically be available. (EXH 1, FCC 97-298, ¶132)

Furthermore, the FCC noted that Ameritech's reliance on manual processing for the ordering and provisioning of resale services had directly impacted its actual ability to provision orders on a timely basis. The FCC concluded that,

> the reliance on a substantial amount of manual processing may violate Ameritech's duty to provide equivalent access when Ameritech's retail operation processes essentially all of its orders electronically. (EXH 1, FCC 97-298, ¶163, 196)

Thus, the FCC found that for Ameritech to demonstrate that it provides nondiscriminatory access, Ameritech must provide empirical evidence that compares its performance to that of a competing carrier. (EXH 1, FCC 97-298, ¶164)

Since Ameritech retails analogous services to those it provides for resale, the FCC determined that Ameritech must provide access and provision such service to ALECs just as it provides to its retail operations. The FCC determined that Ameritech's performance data had failed to demonstrate nondiscrimination. Most significantly, Ameritech did not measure and report average installation intervals for Ameritech's retail operations or for competing carriers. Thus, Ameritech's failure to provide average installation intervals for its retail operations or for ALECs provides Ameritech with the ability to mask discriminatory behavior. The FCC concluded that in order to demonstrate nondiscriminatory access to OSS functions, Ameritech must demonstrate that it is provisioning resale orders within the same average installation interval as that achieved by its retail operations. (EXH 1, FCC 97-298, ¶166) Similarly, the Department of Justice noted that "[p]roviding resale services in substantially the same time as analogous retail services is probably the most fundamental parity requirement in Section 251." The FCC stated that data on average installation intervals is a critical measurement in determining nondiscrimination. (EXH 1, FCC 97-298, ¶168) Hence, without data on average installation intervals comparing Ameritech's retail performance with the performance it provided to ALECs, the FCC could not determine that Ameritech is providing nondiscriminatory access to OSS functions for the ordering and provisioning of resale. (EXH 1, FCC 97-298, ¶167) In addition, the FCC determined that Ameritech can and should disaggregate its data to account for the impact different types of services may have on the average installation interval. (EXH 1, FCC 97-298, ¶170) The FCC concluded that,

> Such data is direct evidence of whether it takes the same time to complete installations for competing carriers as it does for Ameritech, which is integral to the concept of equivalent access. (EXH 1, FCC 97-298, ¶170)

The FCC concluded that Ameritech had not provided the empirical data necessary to substantiate Ameritech's assertion of provisioning nondiscriminatory access to the OSS functions as required by § 271 and § 251 of the Act. (EXH 1, FCC 97-298, ¶209) In closing, the FCC provided these guidelines,

> ..., the appropriate empirical evidence upon which we could determine whether Ameritech is providing nondiscriminatory access to OSS functions, Ameritech should provide, as part of a subsequent section 271 application, the following performance data, in addition to the data that it provided in this application: (1) average installation intervals for resale; (2) average installation intervals for loops; (3) comparative performance information for unbundled network elements; (4) service order accuracy and percent flow through; (5) held orders and provisioning accuracy; (6) bill quality and accuracy; and (7) repeat trouble reports for unbundled network elements. In addition, Ameritech should ensure that its performance measurements are clearly defined, permit comparisons with Ameritech's retail operations, and are

sufficiently disaggregated to permit meaningful comparisons. (EXH 1, FCC 97-298, ¶212)

FCC RULES

FCC Rules regarding nondiscriminatory access to unbundled network elements require that the quality of an UNE, as well as the quality of the access to the UNE, shall be the same for all ALECs requesting access to that UNE from a given ILEC. In addition, to the extent technically feasible, the quality of an UNE, as well as the access to such UNE, that an ILEC provides to ALECs shall be at least equal in quality to that which the ILEC provides to itself. (47 C.F.R. § 51.311 a & b)

FPSC'S INTERPRETATION OF SECTION 271 REQUIREMENTS

In Order No. PSC-96-1579-FOF-TP, the Commission determined that BellSouth should provide telecommunications services for resale and access to UNEs at the same level of quality that it provides to itself and its affiliates. (Order No. PSC-96-1579-FOF-TP, p.74) In making this determination, the Commission agreed with the Act's nondiscriminatory requirement.

SUMMARY OF REQUIREMENTS BEING USED FOR THIS ISSUE

Section 271 requires BellSouth to provide nondiscriminatory access to OSS functions for both UNEs and resale services that BellSouth provides to all requesting ALECs. Similarly, the FCC in its First Report and Order requires that BellSouth shall provide UNEs and resale services that are at least equal in quality to that which BellSouth provides to itself or its affiliates. Thus, the FCC indicated that the use of manual processes directly impacts the ILEC's ability to provision services on a timely basis. BellSouth has the burden to demonstrate compliance with the requirement of nondiscriminatory provision of UNEs, resale services, and access to OSS functions.

In the Ameritech Order, the FCC determined that nondiscriminatory provision of UNEs, resale services, and access to OSS functions must be based on empirical evidence. By empirical evidence, the FCC meant the presence of actual operational data, and in the absence of such operational data, the FCC indicated that data resulting from the provisioning of analogous retail services could be used. Therefore, the required empirical evidence is the presence of measured and reported average installation intervals for both BellSouth and competing carriers. Also, the FCC determined that Ameritech can and should disaggregate its data to permit meaningful comparisons of individual services, and that the provision of clear and precise performance standards and measurements are critical in ensuring that ALECs are provided nondiscriminatory access to OSS functions. Staff believes that this is consistent with Commission Order No. PSC-96-1579-FOF-TP, whereby BellSouth was ordered to provide telecommunications services for resale and access to UNEs at the same level of quality that it provides to itself and its affiliates.

STAFF DISCUSSION OF POSITIONS

To meet the nondiscriminatory requirement of Section 271, BellSouth has proposed to map its operational data distribution using a statistical quality monitoring system, namely the Statistical Process Control (SPC). To set up the SPC, BellSouth will analyze its historical data using statistical tools to determine a mean and standard deviation, and use the standard deviation to set the monitoring control limits. Using this SPC quality control chart, BellSouth will superimpose an ALEC's performance data to evaluate the competing carrier's operational data distribution for parity. (TR 1497) Staff believes that this method of evaluation skews the ALEC's performance analysis outcome, since BellSouth is superimposing the competitors' data on its own. Another potentially better method would be to set up two data sets (ALECs and BellSouth) which could be tested for statistical comparability.

Alternatively, AT&T and the other intervenors are proposing the use of the Local Competition User Group (LCUG) metrics. The LCUG has no corroborative supporting data, however, other than the intervenors' claim that these proposed benchmarks are based on their various operational experiences as IXCs. The intervenors claim that the LCUG's benchmarks provide for direct and meaningful comparison of two sets of performance data.

Issues 3a and 15a are derivative issues from the Act's requirement for nondiscriminatory provision of UNEs and resale services. (Sections 251(c)(3) & (4)) By nondiscriminatory provision, the Act intended that ALECs will have similar provisioning protocols and access to the ILEC's legacy OSS functions in comparable time frames, manner of access, functionality and capability, and information for both UNEs and resold services. (EXH 1, FCC 96-325, ¶517-518)

To establish the existence of nondiscrimination or parity, an ILEC has to provide a means of comparing its operational performance data to that of a competing carrier. Such an instrument should be able to provide meaningful comparison between two sets of performance data in a rather simple but meaningful way. (Pfau TR 2178) The industry-at-large seems to agree that performance standards and measurements are the avenue via which the existence of nondiscrimination or parity will be established and monitored. (EXH 115) Thus, in its section 271 filing, BellSouth has furnished a set of performance standards and measurements that it purports will be useful in establishing and thereafter, monitoring the existence of nondiscriminatory provision of resale services and UNEs. (EXH 52, p.102) The question, therefore, is whether BellSouth's performance standards and measurements are adequate to detect discrimination as it relates to access to BellSouth's OSS functions, and has the nondiscrimination standard been met.

BellSouth's proposed Monitoring System

While BellSouth's witness Stacy contends that performance standards and measurements are not a checklist item required by Section 271, BellSouth argues that the existing Commission requirements are adequate to ensure on-going quality of service. (TR 1559) However, BellSouth's witness Stacy testified that BellSouth has established performance standards and measurements that were attached to his prefiled direct testimony. (EXH 51) Witness Stacy confirmed that the attached document is the same as BellSouth's measurements negotiated with AT&T pursuant to their interconnection agreement. (EXH 52, p.102; TR 1655) Witness Stacy states that BellSouth is still negotiating performance standards and measures with other ALECs, and further states that this same document has been filed along with BellSouth's SGAT. (EXH 52, pp.13-14)

BellSouth's witness Stacy testifies that the performance standards and measurements negotiated with AT&T were arrived at because they met the parties' individual business needs. (EXH 52, p.41) In the filed performance standards and measures, BellSouth has established performance target intervals that will be used to measure parity or nondiscrimination. (TR 1559)

AT&T's witness Pfau argues that BellSouth has a statutory requirement to provide nondiscriminatory access to its operational support systems and functions. (TR 2196) AT&T's witness Pfau asserts that Attachment 12 to AT&T's interconnection agreement is not necessarily relevant to this proceeding because Attachment 12 was constructed for the purposes of monitoring contract compliance and to allow AT&T's market entry. Thus, Attachment 12 is not fit to detect or monitor discrimination or parity. Witness Pfau contends that Section 271 requires that when BellSouth provides service to ALECs, it has to provide that service in the same interval as it provides to itself. He further states that "[t]he FCC specifically recognized in its order that reliance on the interconnection agreements of filing BOCs could only be made after the FCC made a determination that the measures indeed showed that nondiscrimination could be detected." The AT&T's witness argues that the measures contained in Attachment 12 are not adequate to make a nondiscrimination or parity demonstration. (TR 2205, 2220)

AT&T's witness Pfau further argues that Attachment 12 was designed to monitor the operation of the interconnection agreement between AT&T and BellSouth. Witness Pfau states that one of the failings of this document is the fact that none of the interface measurements are incorporated. (TR 2211) Witness Pfau asserts that Attachment 12 is a representative subset of the necessary measurements needed to monitor the quality of support BellSouth provides to competing carriers. In addition, witness Pfau contends that Attachment 12 does not provide for meaningful comparison of performance. (TR 2178)

AT&T's witness Pfau asserts that a major flaw of Attachment 12 is that it is difficult to tell from this document how long it takes BellSouth to provide a service, and that most of the measures do not demonstrate that the specific target interval has any relevance to BellSouth's data. (TR 2220) Witness Pfau argues that the target-based measures that BellSouth uses are designed to monitor and compare performance to a fixed level of objective performance. (TR 2193) As an example the witness states that the

> ...percent due dates met is a target-based measure, the due date in this case being the target. The problem with these measures is they can mask discrimination. If two companies both experience 95% due dates met, it does not mean parity. One company could experience an average service delivery interval of one day, and the other could experience a four-day service delivery interval. BellSouth would say if both had the same percent due date met, then parity exists. (TR 2193)

AT&T's witness Pfau further contends that the primary contention with the use of target-based measures is the potential for masking discrimination. (TR 2225) Witness Pfau asserts that negotiated targets represent "[s]imply what the parties agreed BellSouth would be obligated to deliver in the absence of actual comparative data of BellSouth." (TR 2179)

What have the parties proposed?

- **BellSouth's performance target intervals and the SPC**

BellSouth's witness Stacy argues that BellSouth has established performance target intervals that will be used to measure parity or nondiscrimination. (TR 1559) BellSouth indicates that its retail analogues are the basis of its proposed target intervals. (EXH 52, p.35; TR 1560) BellSouth contends that these performance targets are adequate in demonstrating parity since these target intervals were set using BellSouth historical retail data. (EXH 52, pp.36, 38) However, BellSouth concedes that it does not provide UNEs to its end users; thus, it does not have any prior experience nor historical data upon which it can establish performance target intervals. (EXH 52, p.38) For services, such as UNEs, that BellSouth does not have retail analogues and prior historical data, BellSouth has derived performance target intervals based on its analysis and "best-effort" to allow the collection of data necessary to establish fact-based intervals. (EXH 52, pp.35, 40, 158; TR 1583)

To demonstrate nondiscrimination or parity, BellSouth has proposed the use of the Statistical Process Control (SPC) as a method of analysis and a reporting format (TR 1479) Witness Stacy argues that

> the SPC is a process control used, ..., in almost every industry, and particularly those who are interested in running a high-quality operation, to determine whether an existing process ... is operating in a controlled fashion, ... And there is a systematic method for taking a measurement on a process and determining whether the process itself is so-called in control or out of control. (EXH 52, p.68)

Witness Stacy asserts that BellSouth will use its historical and current operational data to establish statistical control parameters, and will use the process control chart to report BellSouth's and ALECs' performance. (TR 1479) BellSouth will use the SPC analysis to establish the average and the standard deviation, and set the lower/upper control limits at three standard deviations for the proposed control chart using its data. BellSouth's witness Stacy contends that with three sigma deviations, the SPC captures approximately 99.7% variability in the sample data. (EXH 52, pp.3, 158) Witness Stacy asserts that the ALECs' performance will be superimposed on this control chart for comparison, thus providing for a graphic comparison of BellSouth's and the ALECs' performance. (TR 17-18; EXH 52, p.34)

BellSouth's witness Stacy argues that its proposed performance target intervals are sufficient to detect and show nondiscrimination in its processes. Witness Stacy contends that BellSouth's proposed use of the SPC as a statistical method through which parity could be proven is fact-based. BellSouth insists that the SPC is a process control system that has been tested and proven to be adequate in detecting problems in controlled processes. Specifically, BellSouth argues that its proposed target intervals and the SPC are sufficient in establishing parity. (TR 1498; EXH 52, pp.34-35) Witness Stacy states:

> I believe it is a valid method for making comparison between the services BellSouth is providing to itself, its own retail units and to the CLECs and is a method that will be easily understood and easily visible to the Commissions over a period of time to prove that parity exists. (EXH 52, p.70)

- **AT&T's mean and variability tests**

AT&T's witness Pfau argues that performance metrics often monitor performance only against a given threshold value, and that

> measures oriented toward percentages of cases exceeding a target do not allow monitoring of nondiscrimination because the measure only tracks the frequency that a potentially arbitrary threshold is exceeded rather than monitoring and comparing actual performance experienced. (TR 2170)

Witness Pfau further argues that nondiscriminatory support is best demonstrated by comparing the ALEC's performance to the performance BellSouth delivers to its retail operation in the same or reasonably analogous situations. The AT&T's witness contends that in the absence of such analogous operations, benchmark targets, such as those provided in the LCUG, can be used to establish minimum levels of performance on an interim basis pending the development of performance measures. (TR 2173)

AT&T's witness Pfau argues that the SPC is not an adequate means for comparing two sets of performance for nondiscrimination. (EXH 71, p.12) Witness Pfau further argues that the SPC is designed for a single, stable operating process, whereby some observable patterns are obvious. He further contends that BellSouth is misapplying this monitoring tool by proposing to use it to observe multiple systems (BellSouth's and the ALEC's); the witness asserts that "[w]e have already seen that their interfaces are different, so there ... you are using a different way to get to their legacy systems, ..." Witness Pfau asserts that these are new processes that lack the level of maturity to exhibit any stable performance. (EXH 71, pp.62-63) Witness Pfau argues that SPC is designed as a business decision criteria to elicit action when performance is outside some prescribed control parameters. Witness Pfau further argues that BellSouth's SPC will be slow to detect a discriminatory situation, and will only detect the most absurdly flagrant cases of discrimination. (TR 2227-2228)

AT&T's witness Pfau argues that BellSouth's measurements may actually hide discrimination. Witness Pfau urges that the Commission must require measurements that are specifically designed to monitor performance and detect discrimination. (TR 2192) The AT&T's witness disagrees with BellSouth's proposed measurements and argues that BellSouth's proposed measurements do not allow for direct comparison of any two sets of performance data. Witness Pfau insists that comparison is the only test and the basis for proving nondiscrimination. (TR 2191-2192; 2213)

Witness Pfau takes issue with BellSouth's use of three sigma deviations in its proposed use of the SPC. The AT&T's witness argues that the three sigma deviation control limits are not restrictive enough to detect discrimination. The witness contends that the three sigma deviation provides for a .25% probability of having an observation fall outside the control limits. (EXH 71, p.64) The AT&T's witness further argues that an ALEC is not worried if the performance is better; from the ALEC's perspective, it is only one side of the statistical bell-curve that is of significance. Since the ALEC is only concerned with one side of the bell curve, the .25% probability is now reduced to half; "[w]e are down to a little over a tenth of a percent probability that BellSouth would be brought in to explain performance that truly was well within bounds of parity." Witness Pfau contends that this provides too much protection for BellSouth. (EXH 71, pp.64-65) Witness Pfau asserts that in the use of statistical testing for performance, a 95% confidence interval (two sigma deviations) is generally used compared to BellSouth's proposed 99.7% (via the use of three sigma deviations). (EXH 71, p.65)

In the alternative, witness Pfau concedes that for the SPC to be a suitable tool in demonstrating parity, BellSouth's processes must be stable.

> You would need to have virtually identical processes, meaning you don't have the CLEC order fall out to a manual process and then get reinserted while the BellSouth order falls or goes directly through. And you would have to have a process whereby your upper and lower control limits were set in a proper manner, ... (TR 2235-2236)

AT&T witness Pfau insists that for the SPC to become suitable for monitoring nondiscrimination, the SPC must be set to efficiently detect nondiscrimination. Witness Pfau contends that this requires a time frame ranging from 6 to 12 months of data collection, and "[I] think Mr. Stacy said it takes six to nine months of data to build a historical track record." (TR 2235-2236)

AT&T witness Pfau argues that BellSouth could utilize a different statistical methodology to test for discrimination. The AT&T's witness contends that a mean performance test for both BellSouth and the ALEC would provide for direct comparison of the two sets of performance data. Witness Pfau further contends that a variability test, whereby the variability in an ALEC's performance is compared to the variability to BellSouth's retail performance, would be appropriate. Both of these tests, witness Pfau argues, must be conducted within a 95% confidence interval. The witness argues that with the proper operational data, these tests would allow one to determine when the testing results are materially different. (EXH 71, pp.66-67)]

Further, TCG witness Kouroupas contends that BellSouth does not provide measures for transport trunks for such activities as they relate to facilities-based carriers. (EXH 123, pp.13-14) Also, ICI witness Strow argues that BellSouth does not measure and monitor performance that relates to advanced data services. (Strow TR 2402).

- **The intervenors' proposed LCUG**

Several intervenors including AT&T have expressed interest in the LCUG proposed metrics as a representative sample of a "critical few" measures which could serve as the start of an effective measurement plan. (Pfau TR 2158; EXH 84, p.23) The intervenors contend that the LCUG measures could be construed as minimally acceptable measures for monitoring discrimination. These measures could be viewed as benchmarks that the LCUG believes are required in order to provide a competing carrier an opportunity to compete. These benchmarks are not based on actual sampling of ILEC performance, but instead, are based on IXCs' experience or what could be termed as "best of the class." (EXH

71, pp.28, 52-53; EXH 84, pp.15, 24) AT&T witness Pfau argues that the LCUG metrics are along the lines of the guidelines that the FCC has provided in the Ameritech Order. (EXH 71, p.33)

AT&T witness Pfau contends that by presenting the LCUG, AT&T is in effect providing a reasonable alternative monitoring system to BellSouth's proposed monitoring system that AT&T (as well as other ALECs) believes is adequate for Section 271 compliance. Witness Pfau argues that the LCUG metrics propose direct comparison and not the standard use of benchmarks. Witness Pfau contends that the LCUG is actually a third resort because

> what we are asking them to adopt is a measurement system that allows us to make direct comparisons and only revert to those LCUG standards when ... there is no analog or comparable internal function to compare to BellSouth and then ... only after BellSouth has not produced any special studies that would produce a different result than what LCUG proposes. (EXH 71, pp.72, 83)

WorldCom witness McCausland argues that in presenting the LCUG metrics to BellSouth, the intent was that BellSouth could use the LCUG as the basis for future measurements. (EXH 117, p.23) These intervenors argue that BellSouth is not disadvantaged, since its proffered performance standards and measurements have been deemed as only a starting point. (TR 2160; EXH 84, p.26)

FCCA witness Kinkoph asserts that the LCUG metrics cannot be construed as providing parity, but simply as the best of class performance benchmarks that the states could use to establish required intervals based on the individual ILEC's operational performance. However, in the absence of an ILEC's operational data, witness Kinkoph contends that the LCUG metrics should become the default performance benchmarks. (EXH 84, p.25) Sprint witness Closz contends that the LCUG still needs work, since some of the measures are not fully known by either BellSouth or the intervenors. She further contends that some of these measures are surrogates and not fully described because of limited information to warrant good understanding of what such parity standards should be. (EXH 89, p.62)

BellSouth witness Stacy disagrees with the use of the proposed LCUG metrics. He contends that BellSouth has a negotiated agreement with AT&T's that contains a set of measures that meet both of their business needs. (EXH 52, p.41) Witness Stacy argues that the LCUG has measurements that are arbitrary, and sets expectations that are not based on any concept of parity or BellSouth's best business interests. (EXH 52, p.42) In addition, witness Stacy argues that the quantity of measures that the LCUG metrics require are far more than what BellSouth uses to manage its operation; thus, it is unreasonable. (EXH 52, pp.41-42)

Staff notes BellSouth's argument that performance standards and measurements are not listed as a checklist item because performance standards and measurement are not spelled out like other checklist items. However, staff believes that performance standards and measurements can be construed as a checklist item, since performance standards and measurements are derivative issues per the nondiscriminatory requirement of checklist items ii and xiv, pursuant to sections 271(c)(2)(b)(ii) and (xiv). Thus, staff agrees with AT&T that the statutory mandate for nondiscriminatory provisioning of resale services and UNEs elevates this requirement to a checklist item status in the light of section 271 proceedings. (TR 2196)

Staff agrees with both BellSouth and AT&T that BellSouth has basically furnished its negotiated performance standards and measurements with AT&T (Attachment 12) pursuant to their interconnection agreement as its performance standards and measurements. Staff notes that both AT&T and BellSouth indicate that the negotiated measurements are not adequate since they are negotiated and not necessarily based on BellSouth's historical data and that these measurements are just a starting point, thereby, providing for further refinements. (Pfau TR 2205-2206; EXH 52, p.41) Staff agrees with AT&T's argument that these measurements are simply what BellSouth is obligated to deliver in the absence of actual comparative data. Staff believes that these standards and measurements are inadequate in detecting discrimination since they were designed simply to monitor contract compliance and to allow AT&T market entry.

Staff also agrees with the intervenors that BellSouth's filed performance standards and measurements contain performance target intervals which BellSouth intends to utilize in measuring and monitoring nondiscrimination and parity. Staff further agrees with AT&T that the proposed target intervals cannot tell how long it will take BellSouth to provide a service, nor do these measures demonstrate that the specific target intervals have any relevance to BellSouth's operational data.

Staff believes that an effective monitoring system must allow for a simple but meaningful comparison of any two set of performance data. Staff believes that performance target intervals are not adequate and cannot provide such direct comparison, since target intervals measure the frequency of error in meeting the established target interval. Thus, staff agrees with AT&T that target-based measurements have a greater potential of masking discrimination. Staff also agrees with AT&T that the AT&T/BellSouth negotiated standards and measurements are only a representative sample of required measurements necessary to monitor the quality of support BellSouth provides to competing carriers. As indicated by both AT&T and BellSouth, Attachment 12 is subject to revisions and updates.

Staff notes BellSouth's assertion of basing its target intervals on its historical retail analogues, and staff agrees with AT&T that such retail information provides for reasonable minimum levels of performance measures. However, staff observes that BellSouth has not provided any such data as support of its target-based measures for such services that BellSouth has retail analogues. Staff believes that absent such operational data, staff cannot factually determine the efficacy of these target-based measures. There is no way to determine if these target-based measures reasonably approximate the performance BellSouth delivers to its retail operation in analogous situations. Staff notes that in the alternative, AT&T's proposes to use the benchmarks in the LCUG, since these benchmarks are based on the IXCs' experience in the interLATA market combined with the IXCs' reasonable expectations. (EXH 71, pp.53, 68) Staff observes that neither AT&T nor any other intervenor has provided data to support their position that the LCUG's benchmarks reflect their operational experience in the interLATA market.

Staff does not believe that BellSouth's Statistical Process Control is adequate to demonstrate nondiscrimination and parity, since the SPC is generally utilized in stable, controlled, single system manufacturing environments. (TR 2235) Staff believes that the SPC has had limited application, if any, in the service sector. Staff agrees with AT&T that the SPC is not adequate to compare two sets of performance data for nondiscrimination. Staff believes that BellSouth is potentially misapplying the SPC by attempting to use it to monitor multi-system processes in the service environment as witness Pfau argues. Staff agrees with AT&T that the processes utilized to inject competition in the local exchange market are rather new processes, and therefore, lack the level of maturity that would warrant classifying these processes as stable.

Staff disagrees with BellSouth's use of three sigmas to set the control limits for its proposed control chart, since the three sigmas imply 99.7% probability of any variability being in error. Staff believes that three sigmas are not sufficiently restrictive to detect discrimination, especially if this is utilized in conjunction with target-based measurements. Staff notes that BellSouth's witness Stacy conceded that the control limits in the SPC could be set at any desired sigmas. (TR 1688) Staff notes AT&T assertion that a 95% confidence interval is a generally preferred benchmark in statistical testing; however, AT&T did not propose a particular statistical test in the alternative. Alternatively, staff notes that AT&T suggests the use of a mean performance and performance variability testing using a 95% confidence interval as an effective method for comparing operational performance between BellSouth and the competing carriers. Staff observes that BellSouth did not endorse nor refute these ideas. Staff, however, believes that the mean performance testing and the performance variability testing provide for direct comparison better than any target-based measures.

Staff agrees with the intervenors that the LCUG metrics are just a representative sample of a critical few measures that can serve as the back-bone of an effective measuring plan for nondiscrimination. Staff notes the intervenors' assertion that these metrics provide minimum levels of acceptable performance that will provide the ALECs a reasonable opportunity to compete. Staff further notes the intervenors' forthrightness regarding the fact that the LCUG's benchmarks are not based on actual ILEC's operational performance data, but instead, on the "best of class" as per their experience as IXCs and obtained in various interconnection agreements by the LCUG. Staff, however, can neither support nor disprove that the LCUG metrics are designed along the FCC guidelines as proffered in the Ameritech Order. (EXH 71, p.33) Staff notes that the versions of the LCUG provided in this proceeding were released before the Ameritech Order.

Staff contends that while the LCUG has great potential, it is nonetheless, a one-sided effort, since its sponsors are solely competing carriers. Thus, to characterize the LCUG as a reasonable alternative as a default performance benchmarks or even as a basis for BellSouth's future measures is speculative. By the same token, if local competition flourishes as intended by Congress, the LCUG metrics could serve as an initial step toward nondiscriminatory access. According to the FCC, nondiscrimination is fundamental and must be the core of the ILECs' operations as the ILEC provisions the required OSS access, UNEs, or resale services to the ALECs. (EXH 71, p.52)

Staff disagrees with BellSouth's rejection of the LCUG simply on the basis that it has a negotiated agreement with AT&T. (EXH 52, p.41) Staff notes that BellSouth's proposed performance standards and measurement are contained in a negotiated agreement between two parties (AT&T and BellSouth), and both parties have concurred that it still needs refinement. Staff disagrees with BellSouth's assertion that the LCUG metrics are arbitrary and lack the concept of parity. Staff contends that the LCUG metrics could be construed to have a basis regardless of the validity of the sources. (EXH 52, p.42) While there may be no corroborative data to validate the accuracy of these metrics, staff would note that the same argument applies to BellSouth, despite the fact that BellSouth is the custodian of such historical data. Staff believes that it is incumbent on BellSouth to provide the needed information to disprove the LCUG metrics. It is not sufficient for BellSouth, the custodian of these data, to just assert that these benchmarks are unreasonable. BellSouth should have to provide the required data necessary to establish representative and fair benchmarks. Staff also disagrees with BellSouth's assertion that the number of the LCUG benchmarks are more than BellSouth uses to manage its own operations. (EXH 52, p.42) Staff believes that it is necessary to measure all the functions that are required to demonstrate nondiscrimination, thereby giving the ALECs a fair opportunity to compete in the local market. Thus, staff characterizes this assertion as conjecture.

In order to provide guidance regarding nondiscrimination in the provisioning of UNEs, resale services, and access to BellSouth's OSS functions, a measuring tool is imperative. BellSouth argues that this measuring tool should be the negotiated Attachment 12 to AT&T/BellSouth's Interconnection Agreement. Staff notes that there appears to be significant service provisioning interval variations between BellSouth's copy provided in this proceeding (EXH 51) and the Attachment 12 which was filed with the AT&T/BellSouth agreement. At the very least, Attachment 12 is fashioned, for the most part, to meet AT&T's needs as is necessary for market entry. It is not realistic to contemplate that other ALECs' performance needs will be sufficiently covered within this bilateral agreement. (Kouroupas TR 3483; EXH 123, pp.13, 16) As a result, Attachment 12 is not a comprehensive and complete set of measurements that are adequate for the purpose of meeting the nondiscriminatory requirement of Section 271. (Pfau TR 2176)

Staff contends that it is incumbent on BellSouth to provide the required historical data to facilitate the establishment of interim benchmarks. Absent such historical data, the Commission, the ALECs and BellSouth are disadvantaged because there is no factual basis upon which to base these benchmarks. While the LCUG metrics may not be the long term solution, staff would argue that it is the best alternative since BellSouth's proffered